

AMENDED VERSION

IN THE CLAIMS:

1. A method of assessing levels of oxidant stress by measuring proteins polymerized by covalent bonds not including aggregates *in vitro* and *in vivo* and indicating levels of oxidant stress based upon the measurements obtained.

3. The method according to claim 2, wherein said measuring step includes measuring polymerized proteins selected from the group consisting of polymerized cytochrome c, nitrated-polymerized cytochrome c, 30 kDa cytochrome c, nitrated 30 kDa cytochrome c, 45 kDa cytochrome c, and nitrated 45 kDa cytochrome c.

10. A kit for use in assessing oxidant stress *in vitro* and *in vivo* comprising the steps of separating proteins by differences in the molecular mass using sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE) or chromatography under denaturing condition of a purified and mixtures of proteins; visualizing proteins with protein staining and Western blot analysis using antibody against the protein; and identifying a band on the gel and Western blot analyses with a molecular weight which when it produces a whole number when it is divided by the molecular weight of the monomeric form of the protein is an indication of oxidative stress *in vitro* and *in vivo*.

15. A method of assessing levels of oxidant stress by measuring the formation of disulfide polymerized proteins not including protein aggregates *in vitro* and *in vivo* and indicating levels of oxidant stress based upon the measurements obtained.

34. (New) The method according to claim 15, wherein said measuring step further comprises measuring prostaglandin H₂ synthase.

35. (New) The method according to claim 16, wherein said measuring step further comprises measuring prostaglandin H₂ synthase.